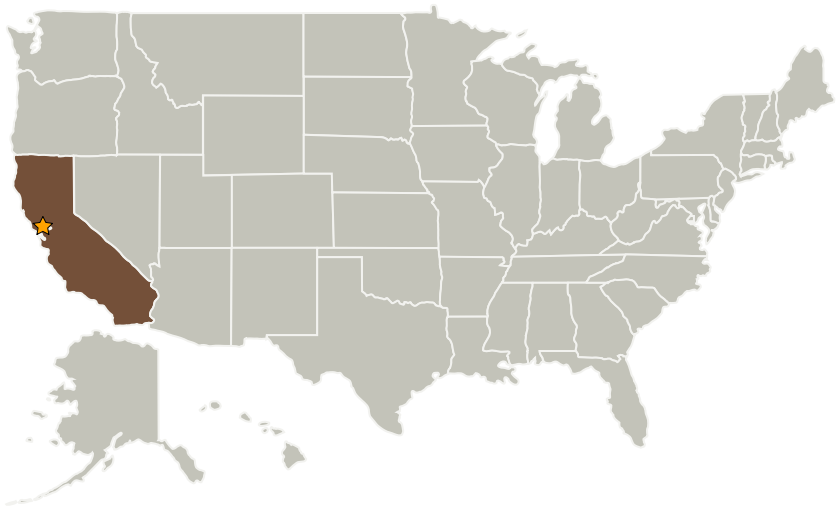
A Search method for Scientific Data in Digital Libraries, Phase I

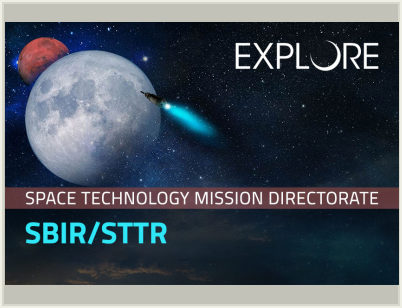
Completed Technology Project (2004 - 2004)

Project Introduction

Unlike the world wide web or general libraries, digital libraries typically serve a specialized community of experts sharing a relatively narrow focus, such as some aspect of law, science, technology, or business. Moreover, these experts are not ?casual users?; they have stringent information requirements. For these reasons, digital libraries increasingly invest in sophisticated methods for indexing and retrieving their information assets. This proposal describes an innovative approach towards indexing and data retrieval that will dramatically imporove this process. The goal of our research is to develop and test a method of knowledge-based information retrieval, in which a request for information is posed as a question, and information sources are identified that pertain to steps in the logical process of answering the question. We aim to develop automated methods that: 1) Receive a user?s question requesting information, 2) Find relevant information sources, and 3) Explain their relevance to the user?s request. To evaluate our results, we plan to build an information retrieval system for the wide variety of users needing information on the effects of global climate change, and to measure its success compared with human experts and conventional systems.

Primary U.S. Work Locations and Key Partners





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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
GCAS Incorporated	Supporting Organization	Industry	San Marcos, California

Primary U.S. Work Locations
California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Christopher Crick

Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.4 Information Processing
    - TX11.4.1 Science, Engineering, and Mission Data Lifecycle